

REMARKS

Claims 1-22 are pending in the current application. Claims 1, 16, 20, 21 and 22 are independent claims. Claim 16 has been amended into independent form. Favorable reconsideration in view of the following remarks is respectfully requested.

Initially, Applicant appreciates the Examiner's acknowledgement of foreign priority claimed under 35 U.S.C. § 119 and the indication that the Information Disclosure Statement filed on January 26, 2004 has been considered.

AMENDMENT TO THE SPECIFICATION

The Examiner asserts that "[t]he title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed." Action, p. 2.

Applicant submits the title has been changed in the Amendments to the Specification section to "Stacked Offset Semiconductor Package and Method For Fabricating."

Furthermore, upon request from the Examiner, Applicant will correct any errors in the Specification of which the Applicant becomes aware of.

35 U.S.C. § 102 (E) REJECTION – HABA

Claims 1, 2, 6-8, 16, 17, 19 and 21 are rejected under 35 U.S.C. § 102 (e) as being anticipated by Haba et al. (hereinafter 'Haba'), U.S. Patent No. 6,376,904. Applicant respectfully traverses this rejection.

Relying on Figure 9 of Haba, the Examiner asserts that Haba teaches the limitations of claims 1 and 21.

Haba is directed to a stacked integrated circuit package wherein a first IC die 410a is connected to a second IC die 410b, adjacent to the planar surface and offset from the periphery of the first IC die 410a, via a conductive pad. Referring to Figure 9, Haba teaches "...resistor terminators 940a-940c are disposed on device 950 to terminate respective transmission lines of bus 930." Haba, col. 13, lines 45-47. Thus, Haba teaches that the electrical connection is terminated on the top device 950 by the resistor terminators; and thus, no further electrical connections are established, for example, between the top device 950 and the frame.

On the other hand, an example embodiment of the present invention teaches "...the second conductors 140 electrically connect respective second bond pads 204 of the upper semiconductor chip 400 to the connection unit of the frame 110, for example, the inner lead 114." Specification, paragraph [0026]. See Figures 2-4 of the present application. To clarify this distinction over the prior art, claims 1 and 21 have been amended in the Amendment to the Claim section of this Response.

Therefore, Applicant submit that Haba fails to anticipate "at least one second conductor electrically connecting the second semiconductor chip to the frame" as taught by independent claim 1, and similarly recited independent claim 21, of the present application.

Reconsideration and withdrawal of the rejection to independent claims 1 and 21 is respectfully requested.

Accordingly, Applicant kindly requests reconsideration and withdrawal of the rejection to claims 2, 6-8 and 19, at least by virtue of their dependency on independent claim 1.

With regard to independent claim 16, the Examiner asserts that Haba teaches the limitations of claim 16. Applicant disagrees.

Applicant submits that claim 16 has been amended into independent form to include “a first semiconductor chip; a number, n , of intermediate semiconductor chips wherein n is an integer greater than or equal to 0; each intermediate semiconductor chip being stacked offset over a semiconductor chip located underneath the intermediate semiconductor chip such that a portion of the semiconductor chip underneath is exposed; a second semiconductor chip stacked offset over the intermediate semiconductor chips or the first semiconductor chip such that a portion of the topmost intermediate semiconductor chip is exposed” and “at least one second conductor electrically connecting the second semiconductor chip to the frame.”

Thus, for similar reasons as given above with respect to independent claims 1 and 21, Haba also fails to anticipate “at least one second conductor electrically connecting the second semiconductor chip to the frame” as taught by independent claim 16.

Reconsideration and withdrawal of the rejection to independent claim 16, and claim 17, by virtue of its dependency on independent claim 16, is respectfully requested.

35 U.S.C. § 102 (E) REJECTION – BROOKS

Claims 1-15 and 19-22 are rejected under 35 U.S.C. § 102 (e) as being anticipated by Brooks, U.S. Patent Publication No. 2003/0153122. Applicant traverses.

Relying on Figure 2 of Brooks, the Examiner asserts that Brooks teaches the limitations of independent claims 1 and 21.

Applicant submits that Brooks is directed to stacked-die package wherein a first semiconductor device is mounted on a second semiconductor device; however, Brooks, like

Haba, fails to teach the top semiconductor device 208 is electrically connected to the frame 202. See Figures 2 and 4 of Brooks.

In contrast, as discussed above, example embodiments of the present invention teach that the top semiconductor 400 is electrically connected to the frame 110 via second conductor 140.

Thus, Brooks fails to suggest “at least one second conductor electrically connecting the second semiconductor chip to the frame” as taught by independent claim 1, and similarly recited independent claim 21, of the present invention.

Reconsideration and withdrawal of the rejection to independent claims 1 and 21 is respectfully requested.

Accordingly, Applicant kindly requests reconsideration and withdrawal of the rejection to claims 2-15 and 19, at least by virtue of their dependency on independent claim 1.

With regards to independent claims 20 and 22, the Examiner asserts that Brooks teaches all the limitations. Applicant disagrees.

Referring to Figure 2, relied on by the Examiner, Brooks discloses “...a second semiconductor device 208 suitably attached to a silicon interposer 206, which is itself attached to first semiconductor device 204.” Brooks, p. 2, paragraph [0015]. Thus, Brooks discloses bond arrangements between the upper semiconductor device and the interposer and the bottom semiconductor device and the interposer. Brooks does not provide any teaching of a plurality of bond pads on the upper semiconductor device connected to another plurality of bond pads *on the same device*. See Figure 4 of Brooks.

However, an example embodiment of the present invention teaches “a redistribution pattern electrically connects the bond pad on the second semiconductor chip to a differently

positioned bond pad on the second semiconductor chip.” Specification, paragraph [0010].
Thus, referring to Figure 4, bond pads 202 are electrically connected to bond pads 204.

According, Brooks fails to anticipate “a redistribution pattern redistributing a first plurality of bond pads on the upper semiconductor chip to a differently positioned second plurality of bond pads on the upper semiconductor chip” as taught in independent claim 20, and similarly recited in independent claim 22.

Reconsideration and withdrawal of the rejection is kindly requested.

35 U.S.C. § 103 (A) REJECTION – BROOKS AND HABA

Claims 16-18 are rejected under 35 U.S.C. § 103 (a) as being unpatentable over Brooks in view of Haba. Applicant traverses in view of the foregoing remarks.

For similar reasons as discussed above, Applicant submits that Brooks and Haba, individually, fail to anticipate “at least one second conductor electrically connecting the second semiconductor chip to the frame” as taught by independent claim 16 of the present application.

Thus, Brooks in view of Haba also fails to teach this missing limitation of independent claim 16, and likewise, claims 17 and 18, at least by virtue of their dependency on independent claim 16.

Reconsideration and withdrawal of the rejection is respectfully requested.

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END OF REMARKS

CONCLUSION

Accordingly, in view of the above, reconsideration of the objections and rejections and allowance of each of claims 1-22 in connection with the present application is earnestly solicited.

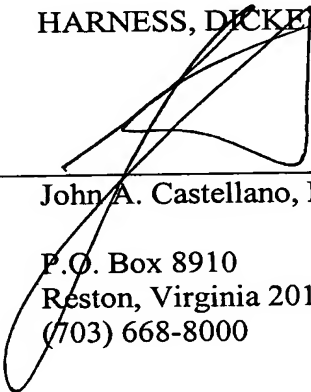
Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact the undersigned at the telephone number of the undersigned below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

HARNESS, ~~DICKEY~~, & PIERCE, P.L.C.

By



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